Project Launch:

SPECIAL (a Scalable Policy-aware linked data architecture for privacy, transparency and compliance)

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MyData 2017, Tallinn/Helsinki
30/08/2017
Where I am coming from, collaborators...

- **Privacy & Sustainable Computing Lab**
- [http://www.privacylab.at/](http://www.privacylab.at/)
- Launched September 2016, launch event with various important stakeholders: technologists, standardization, activists...
- Goal: setting new standards in research, education and practice to address ethical issues in computing.
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What can we bring in here:
- Web Standards
- Linked Data
- Ontologies
- Scalable Data Processing and Querying
Privacy in the EU: all about the upcoming GDPR, How can we support it technically?

Draft of the regulation 7/22/2012
Revisions in the draft 3/12/2013
Discussions in the EU Council 5/19/2014
Trilogue starts 6/24/2015
EU Council finalises the chapters 8/6/2015
Trilogue agrees 12/17/2015
Comes into force 5/15/2018

2013 2014 2015 2016 2017 2018

Horizon 2020
European Union funding for Research & Innovation

Data & Data Driven Services

Regulators
Legal Policies
Privacy Preferences
Contracts/Terms of Use

Companies/Service Providers
Customers/Service Users

2017-2019 (3 years)
The SPECIAL project: Objectives

- Policy management framework
  - Give users control of their personal data
  - Represent access/usage policies and legislative requirements in a machine readable format
- Transparency and compliance framework
  - Provide information on how data is processed and with whom it is shared in a common format (RDF) via standard interfaces
  - Allows data subjects as well as regulators to check compliance (via automated reasoning)
- Scalable policy-aware Linked Data architecture
  - Build on top of the Big Data Europe (BDE) platform scalability and elasticity mechanisms
  - Extended BDE with robust policy, transparency and compliance protocols
SPECIAL Technical Components:

- **Big Data Europe** scalability and elasticity
- **PrimeLife** policy languages, access control policies, release policies and data handling policies
SPECIAL Use Cases:

An example scenario:

Sue uses activity tracking and consents to Ads

BeFit (Activity Tracking & Advertisement)
SPECIAL Use Cases:

An example scenario:

- **Sue’s activity tracker is malfunctioning**
- **BeFit sends unwanted ad by a local Gym to Sue**
- **Policy layer allows Sue to revoke her consent**
- **All her data gets automatically deleted from the Gym’s and the BeFit’s database**
- **Transparency ledger reveals that the ad was sent according to Sue’s consent**
- **Scalable due to a distributed architecture based on encrypted, compressed Linked Data**
SPECIAL Results so far:

- 6 months into the project:
- Recent Publications:
  - **Transparent Personal Data Processing: The Road Ahead.** Piero Bonatti, Sabrina Kirrane, Axel Polleres, and Rigo Wenning. TELERISE: 3rd International Workshop on TEchnical and LEgal aspects of data pRivacy and Security. Sep 2017
- Next deliverables forthcoming:
  - **D1.3 Policy, transparency and compliance guidelines:** Requirements for an Ontology and Policy Language for formalizing and reasoning about Policies and Consent
  - **D1.4 Technical requirements:** First architecture blueprint, based on the BigData-Europe architecture ([https://www.big-data-europe.eu/](https://www.big-data-europe.eu/))
- Community building, common Standards and Best Practices: Planned W3C workshop and Community group on Linked data Vocabularies for Transparency and Privacy controls (planned for early of 2018) – Please join us!

[Image of W3C Community & Business Groups]

*We need your help!*
SPECIAL Results so far:


Storing consent, transparency records in RDF requires technology to harness RDF with:

- Queryable encryption
- Access control
- Compression (build on top of HDT)
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**Bottomline:** Blockchain is ONE possible implementation of an immutable transparency layer, but not the only option!
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  - e.g. W3C ODRL/POE (2017)
  - W3C PROV (2013)
Looking fwd to interesting 3 days here in Tallinn/Helsinki...

...and hope to see many of you in Vienna (21-25 October) for http://iswc2017.semanticweb.org/

Last, but not least:

Web: https://www.specialprivacy.eu/

Twitter: @specialprivacy